

INCH-POUND

ATPD 2265

7 November 2006

SUPERSEDING

ATPD 2265

2 MAY 2000

PERFORMANCE PURCHASE DESCRIPTION

TANKS, FABRIC, COLLAPSIBLE:

3,000, 10,000, 20,000, AND 50,000 GALLON, DRINKING WATER

This purchase description is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers collapsible drinking water tanks complete with fittings and accessories.

1.2 Classification. Tanks will be of the following capacities as specified (see 6.2).

Size I	–	3,000 gallon
Size II	–	10,000 gallon
Size III	–	20,000 gallon
Size IV	–	50,000 gallon

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-D/210, Warren, MI 48397-5000 by letter.

AMSC N/A

FSC 3835

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-59326	–	Coupling Halves, Quick-Disconnect, Cam-Locking Type
A-A-59326/10	–	Coupling Half, Cap, Dust, Type IX
A-A-59326/11	–	Coupling Half, Plug, Dust, Type X
A-A-59566	–	Hose, Rubber, and Hose Assemblies, Rubber, Smooth bore, Water Suction and Discharge
A-A-58092	–	Tape, Antiseize, Polytetrafluorethylene

STANDARDS

FEDERAL

FED-STD-595	–	Colors used in Government Procurements
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(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2.1 Other Government documents. The following purchase descriptions forms a part of this document to the extent specified herein. Unless otherwise specified, the issue is that cited in the solicitation.

FOOD AND DRUG ADMINISTRATION (FDA)

21 CFR 177.2600	Code of Federal Regulations
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(Code of federal Regulations (CFR) and Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal Agency responsible for issuance thereof.)

PURCHASE DESCRIPTIONS

ATPD 2263	–	Repair Kit and Repair Kit Components, For Collapsible Fabric Tanks and Drums
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(Unless otherwise indicated, copies of the above purchase description are available from the US Army Tank-automotive and Armaments Command, Warren, MI 48397-5000 or directly from the contracting officer.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

AATCC 111 – Weather Resistance of Textiles

(Copies can be obtained from the American Association of Textile Chemists and Colorists, P.O. 12215, Research Triangle Park, NC 27709.)

AMERICAN PUBLIC HEALTH ASSOCIATION, INC. (APHA)

APHA SME – Standard Methods for the Examination of Water and Wastewater

(Copies can be obtained from the American Public Health Association, Inc., 1015 15th Street NW, Washington, D.C. 20005.)

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQ Z1.4 – Sampling procedures and Tables for Inspection by Attributes (DoD Adopted)

(Copies can be obtained from the American Society for Quality Control, PO Box 3005, 611 East Wisconsin Avenue, Milwaukee, WI 53201-3005.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 412	–	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension (DoD Adopted)
ASTM D 413	–	Standard Test Methods for Rubber Property-Adhesion to Flexible Substrate (DoD Adopted)
ASTM D 429	–	Standard Test Methods for Rubber Property-Adhesion to Rigid Substrates (DoD Adopted)
ASTM D 471	–	Standard Test Method for Rubber Property-Effect of Liquids (DoD Adopted)
ASTM D 750	–	Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus (DoD Adopted)
ASTM D 751	–	Standard Test Methods for Coated Fabrics (DoD Adopted)
ASTM D 1149	–	Standard Test Method for Rubber Deterioration-Surface Ozone Cracking in a Chamber (DoD Adopted)
ASTM D 3776	–	Standard Test Method for Mass Per Unit Area (Weight) of Fabric
ASTM D 5035	–	Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)

(Copies can be obtained from the American Society for Testing and Materials, 100 Bar Harbor Drive, West Conshohocken, PA 19428-2949.)

NATIONAL SANITATION FOUNDATION (NSF)

ANSI/NSF 61

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Drinking Water Systems Components – Health Effects

(Application for copies should be addressed to the National Sanitation Foundation, International, 3475 Plymouth Rd., PO Box 1468, Ann Arbor, MI 48106.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The tank assembly shall consist of the tank complete with handles, fittings, ground cloth, accessories, and packaged repair items. The tank assembly shall be for storage of drinking water.

3.2 First article. When specified (see 6.3), first article inspection shall be performed in accordance with 4.2.

3.3 Materials. Materials of construction are the responsibility of the contractor. Tanks shall be made with materials that meet or exceed the requirements of tables I through IV; however, conformance to these requirements shall not be construed as justification for failure to meet other performance requirements of this specification. All surfaces that contact drinking water shall comply with the requirements of the Code of Federal Regulations (21 CFR 177.2600) or ANSI/NSF 61.

3.3.1 Deterioration prevention and control. Each component of the tank assembly shall be fabricated from compatible materials, inherently corrosion resistant, or treated to provide protection against various forms of corrosion or deterioration to which they are susceptible.

3.3.2 Base fabric. When tested as specified in 4.5.2, the base fabric shall have a retained breaking strength that is not less than 50 percent of its initial breaking strength, warp and fill.

3.3.3 Coating compounds. The cap strip compound (see 6.4.4) and the coating compound applied to the base fabric substrate shall conform to table I. All coatings that may directly or indirectly contact drinking water shall be suitable for use with drinking water.

3.3.4 Coated fabric. The coated fabric shall be free from blisters, holidays, or pinholes (see 6.4) and shall show no sign of coating delamination. The coated fabric shall meet or exceed the requirements of table II.

3.4 Tank construction. The tank shall be fabricated from materials as specified in tables I and II. The dimensions of the tank shall be as shown in figures 1, 2, 3 and 4. Seams shall not coincide with tank fittings. The longitudinal seams of the tank top shall not coincide with the seams of the tank bottom at end closures. Coated fabric panels may be spliced together, however, all splices shall be located on the bottom of the tank. Splices in adjacent panels shall not coincide. All splices shall conform to requirements for seams as specified in 3.4.1. The tank design shall prevent wicking into the cut edge of the coated fabric. Coated fabric coatings shall have a minimum thickness of 10 mils to prevent seepage.

3.4.1 Seams. All tank seams (4.5.5.1) shall conform to the requirements of table III.

3.4.2 Handles. Each handle shall be bonded to the bottom of the tank just below the peripheral fold line and shall be located a minimum of 1.00 inch away from the seams. The bonds between each handle and the tank fabric shall be capable of withstanding perpendicular loads of 1,000 pounds without damage to the tank. The number of handles and the position of each handle shall be as shown in figures 1, 2, 3, and 4, as applicable.

3.4.2.1 Lifting slings. Each tank shall be furnished with a minimum of two lifting slings. Each sling shall be a minimum of 2.00 inches in width and be rated at a working load of a minimum of three times the weight of the tank. The ends of each sling shall have a sewn loop, D-ring or similar mechanism to facilitate the lifting of the tank from its container. The lifting slings shall be positioned around the periphery of the tank when folded for shipment. The slings shall be used to lift the tank out of its crate or off of its pallet.

TABLE I. Characteristics of coatings.

Test Property	Requirements	Test Methods		Internal/External Coating
		ASTM	Para.	
Original properties: Tensile strength (initial) Ultimate elongation	1500 psi (min) 300% (min)	D 412	4.5.3.1	Internal & External
Properties after immersion in distilled water at 180 ± 2 °F for the following durations: 14 days: Tensile strength retention 28 days: Tensile strength retention	80% (min) 70% (min)	D 412 D 471	4.5.3.2	Internal & External
Weather resistance: 1500 hours exposure and 10% elongation: Tensile strength retention	75% (min)	D 750	4.5.3.3	External
Odor	2	APHA 207	4.5.3.4	Internal
Taste	4	APHA 211A	4.5.3.4	Internal
Ozone resistance	No cracks under 7X lens	D 1149	4.5.3.5	Internal & External

3.4.3 Chafing patches. All chafing patches shall be made of the same coated fabric used to fabricate the tank. The interior of the tank shall be provided with bonded chafing patches centered and opposite the location of each fitting. A bonded chafing patch shall be centered at the point where each fitting interfaces the external portion of the tank when folded for shipment.

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Each chafing patch shall be circular in shape with a minimum radius equal to the widest dimension of the flange for the applicable fitting.

TABLE II. Characteristics of coated fabric and ground cloth.

Test Property	Requirements		Test Methods		
	Sizes I / II	Sizes III / IV	ASTM	AATCC	Para
Weight (oz/sq yd)	35 (min) - 62 (max)		D 3776		4.5.4
Tear strength (warp & fill lb, min)	25	35	D 751		4.5.4
Breaking strength (warp & fill lb/in, min)	400	500	D 751 Proc. B		4.5.4
Puncture resistance (lbs, min)	150	200	D 751		4.5.4.1
Weather resistance, 500 hrs exposure and 5% elongation, warp & fill: Breaking strength retention % (min)	90	90	D 750 D 751 Proc. B	111	4.5.4
Low temperature crease resistance: Appearance	No cracking, peeling, or delamination under 7X lens				4.5.4.2
Blocking	Separate within 5 seconds				4.5.4.3
Coating adhesion: Initial (lb/in, min)	30		D 413 Machine Method		4.5.4.4 & 4.5.4.4.1
Coating adhesion after immersion in distilled water at 180 ± 2 °F for the following durations: 14 days (lb/in, min) 28 days (lb/in, min)	20 20		D 413 Machine Method & D 471		4.5.4.4 & 4.5.4.4.1
Coating Thickness	10 mils (minimum)				4.5.4.5

TABLE III. Characteristics of seams.

Test Property	Requirements		Test Method	
	Sizes I / II	Sizes III / IV	ASTM	Para
Breaking strength:				
Initial (lb/in, min)	400	500	D 751 Method B	4.5.5.1
After immersion in water at 180 ± 2 °F for:				
14 days (lb/in, min)	280	400	D 751 Method B	4.5.5.1
28 days (lb/in, min)	280	400	& D 471	
Dead load shear resistance under 100 lb/in stress at 200 °F for 8 hrs:	0.1 in slippage (max)			4.5.5.2
Seam peel adhesion:				
Initial (lb/in, min)	30		D 413 Machine Method	4.5.5.1
After immersion in water at 180 ± 2 °F for:				
14 days (lb/in, min)	20		D 413 Machine Method	4.5.5.1
28 days (lb/in, min)	20		& D 471	

3.4.4 Fittings.

3.4.4.1 Fitting type. The flanges for the filler/discharge, vent and drain fitting assemblies shall be bonded to the coated fabric and shall conform to the requirements of table IV and are suitable for use with drinking water.

3.4.4.2 Fitting assemblies. Unless otherwise specified (see 6.2), each tank shall be furnished with fitting assemblies. The quantity required and location for the filler/discharge, vent and drain fitting assemblies shall be as shown in figures 1, 2, 3, and 4 and described in Table VII. All fittings shall be a minimum of 8-inches from any tank seam. The recommended torque for all fitting bolts shall be either stamped onto the fitting flange plates or stenciled on the tank fabric adjacent to the respective fittings. All fitting assembly components that require attachment by screws, nuts, washers, bolts or adhesives bonds shall be assembled before delivery.

3.4.4.2.1 Filler/discharge assembly. Each tank shall have two filler/discharge assemblies. Each assembly shall be capable of withstanding a hydrostatic pressure of not less than 15 psi without leakage. The lower portion of each assembly shall be permanently attached to the tank. The lower portion of each assembly shall include a suction stub to prevent pump cavitation, manhole access, a 4-inch male camlock coupler half and 4-inch camlock dust cap. Each assembly shall incorporate a manhole access to allow the entry/exit of an individual attired in

proper safety equipment performing routine tank maintenance and repair. The manhole access opening shall have a minimum interior perimeter dimension defined by two circles with a 5-inch radius and a 6-inch line intersecting the center point of each circle (oval shape). The dust cap shall be permanently tethered to the lower portion of the assembly. The upper portion of each assembly shall be a 90° elbow. The first elbow shall have 4-inch female to female camlock coupling halves and the second elbow shall have 4-inch female to male camlock coupling halves.

The configuration of these elbows shall allow the inlet/outlet ports on the tank to be reversible among the two assemblies. The lower and upper portion of these assemblies shall be joined by the 4-inch male and female camlock coupling halves prior to placing the tank into service. Under storage and shipping conditions the lower and upper portions shall be separated and the dust plug installed on the male camlock coupler. The male and female camlock coupling halves and dust cap shall be in accordance with A-A-59326, Class A. The male and female terminating ends of the assemblies shall be compatible with the filler/discharge hose assembly accessory noted in 3.8.

3.4.4.2.2 Drain fitting assembly. The drain fitting assembly shall be compatible with the drain hose accessory noted in 3.8. The drain assembly shall have a minimum 2-inch ID. A drain plug shall be attached to the drain assembly before folding for shipment. The drain plug shall be tethered to the drain assembly by chain. The protrusion of the drain assembly below the bottom of the tank shall be no more than a depth of 4-inches.

3.4.4.2.3 Vent fitting assembly. The lower portion of the vent assembly shall be permanently attached to the tank. This portion of the assembly shall include a 2-inch male camlock coupling half and the 2-inch camlock dust plug. The dust plug shall be permanently tethered to the lower portion of the vent assembly. The upper portion of the vent assembly shall include the 2-inch female camlock coupling half and pressure relief cap. The lower and upper portion of the vent assembly shall be joined by the 2-inch male and female camlock coupling halves prior to placing the tank into service. Under storage and shipping conditions the lower and upper portions shall be separated and the dust plug installed on the male camlock coupler. The male and female camlock coupler halves and dust cap shall be in accordance with A-A-59326, Class A. The pressure relief cap shall be calibrated to open when the internal pressure exceeds 3.00 inches of water.

3.4.4.3 Thread seal. If the design of any fitting incorporates threaded fittings, an antiseize material shall be applied to mating pipe threads prior to assembly. If the design of any assembly requires a threaded fitting to be assembled in the field antiseizing tape shall be provided as a repair item according to A-A-58092, size 4 (see 3.7).

3.5 Tank performance. The tank and components shall withstand folded storage at ambient temperatures from -25 to 160 °F, without damage or leakage when subsequently filled with water. The tank and components shall be suitable for operational use at ambient temperatures from -25 to 140 °F. The tank shall not be damaged during service life when exposed to relative humidity up to 100 percent. The tank shall be suitable for use in continuous contact with rainwater and ground water. There shall be no leakage or seepage when the tank is filled to its rated capacity with water. The tank shall have a 10 percent minimum over-capacity without rupture or weakened areas, and without leakage or seepage. The tank shall not leak when subjected to a 24-hour water storage test. The tank shall be capable of withstanding an internal air pressure of 0.50 psi without evidence of leakage. The tank assembly shall not require any cleaning or maintenance when taken out of storage prior to being placed in service.

TABLE IV. Characteristics of bonded fittings.

Test Property	Requirements		Test Method	
	Sizes I / II	Sizes III / IV	ASTM	Para
Flange fitting to coated fabric bond breaking strength: Initial (lb/in, min)	400	550	D 751 Method B	4.5.6.1 & 4.5.6.1.1
After immersion in distilled water at 180 ± 2 °F for: 14 days (lb/in, min) 28 days (lb/in, min)	325 290	450 400	D 471 & D 751 Method B	4.5.6.1 & 4.5.6.1.2
Dead load shear resistance under 100 lb/in stress at 200 °F for 8 hrs	0.1 in slippage (max)			4.5.6.1.3
Peel adhesion of flange strip to coated fabric: Initial (lb/in, min)	30		D 429 Method B	4.5.6.2 & 4.5.6.2.1
After immersion in distilled water at 180 °F for: 14 days (lb/in, min) 28 days (lb/in, min)	20 15		D 429 Method B	4.5.6.2 & 4.5.6.2.1

3.6 Ground cloth. Unless otherwise specified (see 6.2), a ground cloth shall be provided with each tank to provide a sacrificial liner between the tank and the ground. The ground cloth shall be capable of functioning in the same environment as the tank. The ground cloth shall meet the puncture and weathering resistance requirements of table II, when tested in accordance with table II. The minimum length and width of the ground cloth shall be in accordance with table V.

TABLE V. Ground cloth dimensions.

Tank Size	Length (min)	Width (min)
3000 Gallon	19-feet	19-feet
10,000 Gallon	27-feet	27-feet
20,000 Gallon	30-feet	30-feet
50,000 Gallon	71-feet	31-feet

3.7 Repair items. Unless otherwise specified (see 6.2), repair items shall be furnished with each tank in accordance with table VI.

TABLE VI. Repair Items.

Item	Conformance	Quantity
Tank Repair Kit	ATPD-2263, Type II	1 ea. for tank size I & II
Tank Repair Kit	ATPD-2263, Type III	1 ea. for tank size III & IV
Replacement O-rings and Gaskets (as applicable)	In accordance with each fitting assembly (see 3.4.4 through 3.4.4.2.3)	1 complete set for each assembly installed on the tank
Antiseize Tape (if required)	See 3.4.4.3 A-A-58092, size 4	1 roll ea. Tank
Coated Fabric	In accordance with table II	One square yard ea. Tank

3.8 Accessories. Unless otherwise specified (see 6.2), each tank shall be provided with the accessories in the quantities shown table VII. Each assembly in table VII shall be suitable for use in continuous contact with water (see 3.3) and inherently corrosion resistant (see 3.3.1). Each assembly in table VII shall be provided fully assembled with dust caps or plugs and gaskets, washers, screws, and nuts installed. Plugs and caps shall be tethered to each assembly by chain. Each valve shall be rated at a working pressure of 125 psig or higher. Each valve shall be marked "OPEN, CLOSE" with arrows to show direction of turning for opening and closing the valve. The drain valve assembly shall be compatible with male end of the drain hose assembly. The filler/discharge valve assembly shall be compatible with both ends of the filler/discharge hose assembly. The filler/discharge assemblies shall be compatible with the filler/discharge hose assembly. Antiseize material shall be applied to all threaded fittings before mating, as applicable.

TABLE VII. Tank Accessories.

ITEM	CONFORMANCE	QTY
Drain Hose Assembly	<p><u>Hose, 2-inch x 10 feet:</u> A-A-59566, Grade A, Style A, Class 2, Size 020, Length 120. PIN: AA59566-A-A-2-020-120</p> <p><u>End fittings, 2-inch:</u> One end fitting shall be female coupling half, A-A-59326, Class A, with dust plug, A-A-59326, Type X, Class A, 2-inch. The terminating end of the other fitting shall be male coupling half, A-A-59326, Class A, with dust cap, A-A-59326, Type IX, Class A, 2-inch. The dust covers and chains shall be installed on the hose to complete the assembly, see 3.8.</p>	2 ea.

ITEM	CONFORMANCE	QTY
Drain Valve Assembly	<p><u>Valve, 2-inch:</u> Conforming to 3.8.</p> <p><u>End fittings, 2-inch:</u> The assembly shall terminate with one male and one female coupling half. The male and female coupling halves shall conform to, A-A-59326, Class A, 2-inch with dust cap, A-A-59326, Type IX, Class A, 2-inch and dust plug, A-A-59326, Type X, Class A, 2-inch. The end fittings, dust covers and chains shall be installed on the valve to complete the assembly, see 3.8.</p>	2 ea.
Filler/ Discharge Hose Assembly	<p><u>Hose, 4-inch x 12 feet:</u> A-A-59566, Grade A, Style A, Class 2, Size 040, Length 144. PIN: AA59566-A-A-2-040-144</p> <p><u>End fittings, 4-inch :</u> One end fitting shall be female coupling half, A-A-59326, Class A, with dust plug, A-A-59326, Type X, Class A, 2-inch. The terminating end of the other fitting shall be male coupling half, A-A-59326, Class A, with dust cap, A-A-59326, Type IX, Class A, 2-inch. The dust covers and chains shall be installed on the hose to complete the assembly, see 3.8.</p>	2 ea.
Filler/ Discharge Valve Assembly	<p><u>Valve, 4-inch:</u> Conforming to 3.8.</p> <p><u>End fittings, 4-inch:</u> The assembly shall terminate with one male and one female coupling half. The male and female coupling halves shall conform to A-A-59326, Class A, 4-inch. The dust cap and dust plug respectively shall be in accordance with A-A-59326, Type IX, Class A, 4-inch and A-A-59326, Type X, Class A, 4-inch. The end fittings, dust covers and chains shall be installed on the valve to complete the assembly, see 3.8.</p>	2 ea.
Filler/Discharge Elbow (female to female)	<p><u>Elbow, 4-inch:</u> The elbow shall have a female coupling half at each end and shall conform to A-A-59326, Class A, 4-inch. Elbow shall mate with filler/discharge fitting at one end and filler/discharge hose assembly at the other end.</p>	1 ea.
Filler/Discharge Elbow (female to male)	<p><u>Elbow, 4-inch:</u> The elbow shall have a female coupling half at one end and a male coupling end at the other, and shall conform to, A-A-59326, Class A, 4-inch. Elbow shall mate with filler/discharge fitting at one end and filler/discharge hose assembly at the other end.</p>	1 ea.

3.9 Markings.

3.9.1 Identification. The tank shall be permanently marked with identification labels. The location of the identification labels shall be as shown in figures 1, 2, 3, and 4. Each label shall contain the following information using letters of 1.00 (min) height:

COLLAPSIBLE FABRIC TANK:

(specify) GALLONS, DRINKING WATER

NSN: (specify)

MANUFACTURER: (specify)

MANUFACTURE DATE: (specify month (3 letter) and year)

CONTRACT NO: (specify)

LOT & SERIAL NO: (specify)

WEIGHT EMPTY: (specify approximate weight in pounds)

CRATED WEIGHT: (specify approximate weight in pounds)

3.9.2 Tank caution label. The tank shall be permanently marked with caution labels. The location of the caution labels shall be in accordance with figures 1 through 4. Each caution label shall contain the following information using letters of 1.00 inch (min) height, except for the word caution that shall be letters of 2.00 inches (min) height and in a contrasting color.

CAUTION
DO NOT OVERFILL
OVERFILLING MAY RESULT IN PERMANENT
DAMAGE AND FAILURE OF THE TANK

MAXIMUM CAPACITY: (specify) Gallons, (specify) Liters
MAXIMUM TANK HEIGHT: (specify) Feet (specify) Inches, (specify) Meters

3.9.3 Valve labeling. The valves shall be permanently marked to indicate the direction of operation (i.e., open, close), see 3.8.

3.9.4 Drain location label. The exterior tank surface opposite to the drain assembly shall be permanently marked with the following “Drain Fitting Is Under This Label” and “Connect Drain Hose Before Filling Tank”. The letters shall be 1.00 inch (min) height.

3.9.5 Filler/discharge label. “FILL/DISCHARGE” shall be permanently marked adjacent to the filler/discharge assembly in 1.00 inch (min) height.

3.9.6 Drinking water label. The sides of the tank shall be permanently marked “Drinking Water” in a contrasting color, in 4.00-inch (min) high lettering. The label shall be visible when the tank is filled to its rated capacity.

3.10 Color. Unless otherwise specified (see 6.2), the color of the tank exterior (the coating of the coated fabric, seams, cap stripping and chafing patches), hoses and ground cloth shall be in accordance with FED-STD-595, color chip 33446 (sand matte), general match. It is recommended that the interior coating of the coated fabric not have any pigmentation added to its compound (the fabric should be visible through this coating.) All surfaces, normally painted shall be cleaned, treated, and painted in accordance with the manufacturer’s standard commercial practice.

3.11 Repair and rework of collapsible tanks, fabric. Repair or rework of any tank shall be accomplished before inspection with the exception of air leakage testing. Repair of seams shall not be greater than 5 percent of total seam length in the tank. Defects subject to repair (other than those on seams) shall be limited to 6.00 inches in diameter, length, or width as applicable. The 6.00-inch criteria shall apply to the maximum dimensions of the affected condition.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.1.1 Fabricated samples for inspection. Fabricated samples shall be prepared using the same materials, processes, production personnel, and equipment used in fabrication of the tank material. Laboratory samples shall not be acceptable (samples produced in a testing facility or by test or quality control personnel using production equipment). Each inspection tank shall include a sufficient number of fabricated samples to conduct tests in accordance with 4.5. The contractor shall ensure that the fabricated samples are representative of the corresponding production tank or first article tank.

4.2 First article inspection.

4.2.1 Examination. A first article tank (see 6.3) shall be examined as specified in table VIII. Presence of one or more defects shall be cause for rejection.

4.2.2 Tests. First article tank A and B (see 6.3) are not required to be subjected to the air leakage test 4.5.1.1 under the first article test. First article tanks A and B shall be used to determine conformance to the test specified in table IX. The low temperature, high temperature, water storage and water storage overload tests shall be conducted in this order and on first article tank A. First article tank A may be considered as a deliverable tank and shall be subjected to any lot conformance inspection required. It is highly recommended that test samples be cut from first article tank B. The Any nonconformance revealed by any test shall be cause for rejection.

4.3 Conformance inspection.

4.3.1 Sampling. The lot size and the random sample selected from each lot shall be determined in accordance with ANSI/ASQ Z1.4.

4.3.2 Examination. Each production tank selected at random from each lot, in accordance with 4.3.1, shall be examined as specified in table VIII. Any nonconformance revealed by the examination shall be cause for rejection.

4.3.2 Tests. . All production tanks shall be subjected to the air leakage test. Each production tank selected at random from each lot, in accordance with 4.3.1, shall be subjected to the test marked with an "X" in column 2 of table IX. Fabricated samples, prepared in accordance with 4.1.1, shall be subjected to the tests marked "FS" in column 2 of table IX. Test marked with "*" shall not be attempted. Failure of any test shall be cause for rejection.

4.4. Examination schedule.TABLE VIII. Examination schedule.

Number	Examination Description	Requirement Paragraph
101	Certification of compatibility of material not as specified.	3.3 & 3.3.1
102	Tank dimensions not as specified.	3.4
103	Cut edge of coated fabric not as specified	3.4
104	Location and quantity of handles not as specified.	3.4.2
105	Lifting slings not as specified.	3.4.2.1
106	Chafing patches and location of chafing patches not as specified.	3.4.3
107	Location, quantity and torque marking of fittings not as specified.	3.4.4.2
108	Fittings not assembled for delivery as specified.	3.4.4.2
109	Suction stub, manhole access and terminating ends of the filler/discharge assembly not as specified.	3.4.4.2.1
110	Drain fitting not as specified.	3.4.4.2.2
111	Vent assembly not as specified.	3.4.4.2.3
112	Thread seal not as specified.	3.4.4.3
113	Ground cloth dimensions not as specified.	3.6
114	Repair Items not as specified.	3.7
115	Drain hose assembly not assembled and not as specified. Certification of the hose to the minimum pressure ratings not available.	3.8 & table VII
116	Drain valve assembly not assembled and not as specified.	3.8 & table VII
117	Filler/discharge hose assembly not assembled and not as specified. Certification of the hose to the minimum pressure ratings not available.	3.8 & table VII
118	Filler/discharge valve assembly not assembled and not as specified.	3.8 & table VII
119	Identification markings not as specified.	3.9.1
120	Caution labels not as specified.	3.9.2
121	Valve labeling not as specified.	3.9.3
122	Drain labels not as specified.	3.9.4
123	Filler/discharge labels not as specified.	3.9.5
124	Drinking water labels not as specified.	3.9.6

Number	Examination Description	Requirement Paragraph
125	Color not as specified.	3.10
126	Repair and rework not as specified.	3.11

4.5 Test schedule.TABLE IX. Test schedule.

FAT	Conf. Inspec.	Test	Test Para.	Requirement Para.
<u>Tank and Accessories</u>				
*	All tanks	Air leakage	4.5.1.1	3.5
X	*	Vent fitting assembly	4.5.1.2	3.4.4.2.3
X	*	Hydrostatic	4.5.1.3	3.4.4.2.1
X	*	Low temperature	4.5.1.4	3.5
X	*	High temperature	4.5.1.5	3.5
X	*	Water storage	4.5.1.6	3.5
X	*	Water storage overload	4.5.1.7	3.5
X	*	Handle pull test	4.5.1.8	3.4.2
<u>Base fabric</u>				
FS	*	Base fabric properties	4.5.2	3.3.2
<u>Coating compounds</u>				
FS	*	Tensile strength (original)	4.5.3.1	3.3.3, table I
FS	*	Ultimate elongation (original)	4.5.3.1	3.3.3, table I
FS	*	Properties after immersion in water for 14 and 28 days	4.5.3.2	3.3.3, table I
FS	*	Weather resistance	4.5.3.3	3.3.3, table I
FS	*	Taste and odor	4.5.3.4	3.3.3, table I
FS	*	Resistance to ozone	4.5.3.5	3.3.3, table I
<u>Coated fabric</u>				
FS	FS	Weight	4.5.4	3.3.4, table II
FS	FS	Tearing strength	4.5.4	3.3.4, table II
FS	FS	Breaking strength	4.5.4	3.3.4, table II
FS	FS	Puncture resistance	4.5.4.1	3.3.4, table II
FS	*	Weathering resistance	4.5.4	3.3.4, table II

FAT	Conf. Inspec.	Test	Test Para.	Requirement Para.
FS	*	Low temperature crease resistance	4.5.4.2	3.3.4, table II
FS	*	Blocking	4.5.4.3	3.3.4, table II
FS	FS	Coating adhesion (initial)	4.5.4.4/ 4.5.4.4.1	3.3.4, table II
FS	*	Coating adhesion after immersion in water for 14 days & 28 days	4.5.4.4/ 4.5.4.4.1	3.3.4, table II
FS	FS	Coating thickness	4.5.4.5	3.3.4, table II
<u>Seams</u>				
X	FS	Breaking strength (initial)	4.5.5.1	3.4.1, table III
X	*	Breaking strength after immersion in water for 14 days & 28 days	4.5.5.1	3.4.1, table III
X	FS	Dead load shear resistance	4.5.5.2	3.4.1, table III
X	FS	Peel adhesion (initial)	4.5.5.1	3.4.1, table III
X	*	Peel adhesion after immersion in water for 14 days & 28 days	4.5.5.1	3.4.1, table III
<u>Bonded Fittings</u>				
X	*	Bond strength (initial)	4.5.6.1/ 4.5.6.1.1	3.4.4.1/ table IV
X	*	Bond strength after immersion in water for 14 days & 28 days	4.5.6.1.1/ 4.5.6.1.2	3.4.4.1/ table IV
X	*	Dead load shear resistance	4.5.6.1.3	3.4.4.1/ table IV
FS	*	Peel adhesion of flange strip (initial)	4.5.6.2/ 4.5.6.2.1	3.4.4.1/ table IV
FS	*	Peel adhesion after immersion in water for 14 days & 28 days	4.5.6.2/ 4.5.6.2.1	3.4.4.1/ table IV
<u>Ground Cloth</u>				
FS	FS	Puncture resistance	4.5.7	3.6 & table II
FS	*	Weathering resistance	4.5.7	3.6 & table II

4.5.1 Tank and accessories.

4.5.1.1 Air leakage. Pressurize the tank to a 0.50 psi, \pm 5 percent, internal air pressure and allow to stand for a minimum of 30 minutes. Then adjust the internal air pressure to 0.50 psi, \pm 5 percent. Then using a soap and water solution examine all of the coated fabric, seams and fittings for air leakage. Any evidence of air leakage shall constitute failure of this test.

4.5.1.2 Vent fitting assembly. Subject the vent fitting to an internal minimum pressure of 3.00 inches of water. Inability of the pressure relief cap to open at this pressure shall constitute failure of this test.

4.5.1.3 Hydrostatic. Subject the filler/discharge assembly to a minimum hydrostatic pressure

of 15 psi for a period of not less than 60 seconds. The suction stub may be removed during this test if necessary. The test fluid shall be water. Any leakage of the assembly shall constitute failure of this test.

4.5.1.4 Low temperature. The tank shall be folded or rolled to a size suitable for placing in the shipping container and then placed, unshielded, in a low temperature environment of less than -30 °F, for a period of not less than 24 hours. The ambient environmental temperature shall be increased to not less than -25 °F, for an additional 24 hours. At the end of this period while still at not less than -25 °F, the tank shall be slowly unfolded, in not less than 15 minutes nor greater than 30 minutes. Any flaking, cracking, or separation of the coated fabric, shall constitute failure of this test. After successful completion of this test, the same tank shall be subjected to the high temperature test in 4.5.1.5.

4.5.1.5 High temperature. The tank shall be folded or rolled to a size suitable for placing in the shipping container, then placed, unshielded, in a high temperature environment of more than 160 °F, for a period of at least 24 hours. At the end of this time, while still at more than 160 °F, the tank shall be slowly unfolded in not less than 15 minutes nor greater than 30 minutes. Any flaking, cracking, delamination, or separation of the coated fabric shall constitute failure of this test. After successful completion of this test, the same tank shall be subjected to the water storage test in 4.5.1.6.

4.5.1.6 Water storage. Fill the tank outdoors, without environmental protective covering, to its rated capacity with drinking water and allow to stand for 30 ± 3 days. The tank shall be placed on a non-absorbent berm liner during this interval. Periodically during the test and at the end of this period, examine the tank for seepage and leakage. Any examination shall be postponed if weather conditions, such as rain or high humidity, inhibit inspection and will resume under favorable examination conditions. Any leakage or seepage shall constitute failure of this test.

4.5.1.7 Water storage overload. Within two days after the conclusion of the water storage test, the tank shall be subjected to the tank overload test. The tank shall be filled to its rated capacity plus an additional minimum of 10 percent, with water. To minimize water transfer cost, this test may be conducted immediately after successful completion of the water storage test as specified in 4.5.1.6. The tank shall be allowed to stand for a minimum of 4 hours. After a minimum of the 4 hours examine the tank. The examination shall be postponed if weather conditions, such as rain or high humidity, inhibit inspection and will resume under favorable examination conditions. Any signs of rupture, weakened areas, leakage, or flaking, cracking, delamination, or separation of the coated fabric shall constitute failure of this test. After successful completion of this test, the tank shall be cleaned and dried internally/externally, and returned to inventory for consideration as a deliverable assembly.

4.5.1.8 Tank handle pull resistance. The test sample shall consist of the handle assembly and a minimum of 1 foot of tank body fabric extending in all directions from the handle patch. The body fabric shall be tightly drawn and clamped between two flat, oval rings or a base plate and an oval ring; so that the handle of the patch is centrally located in the ring(s). The shape of the oval rings shall be such that all edges of the coated fabric patch are a minimum of 1.00 inch from the interior edge of the ring. Other geometric shapes (rectangle etc.) may be substituted for the oval ring. The rigidity, strength, and construction of the clamp shall be such that the tank body material shall not slip greater than 0.50 inch at any point during the test. With the sample held securely, tension shall be applied by a bar or pipe 1.00 inch in diameter inserted in the loop of the

handle. The tension shall be slowly and smoothly applied in a direction perpendicular to the plane of the handle assembly until a minimum load of 1000 pounds is reached and maintained for one minute. Failure of the handle assembly to maintain the 1000-pound load for 1 minute shall constitute failure of this test. Any damage, permanent distortion, or separation of the handle assembly, or tank material shall constitute failure of this test.

4.5.2 Base fabric. Initial base fabric breaking strength shall be determined in accordance with ASTM D 5035, Ravel Strip Test-1R. Prior to testing, the edges of raveled warp and fill specimens shall be sealed by coating, dipping, or brush application of an adhesive/sealant to preclude yarn slippage. The mean of five warp and five fill specimens shall be recorded. A duplicate set of specimens shall be subjected to at least 100 hours of accelerated weathering according to ASTM D 750, or AATCC 111. Alternate Corex D filters shall be removed prior to exposure. The breaking strength, warp or fill, of the weathered specimens shall be recorded. A retained breaking strength, warp or fill, which is not in conformance with 3.3.2 shall constitute failure of this test.

4.5.3 Coating compounds. If different compounds are used for the cap strip and the base fabric coating, both shall be tested in accordance with table I. If the compound is the same, only one test cycle from table I is required.

4.5.3.1 Initial properties. Original tensile strength and elongation shall be determined in accordance with test methods cited in table I. Nonconformance to 3.3.3 or table I shall constitute failure of this test.

4.5.3.2 Immersion properties. Properties after immersion in water for 14 and 28 days shall be determined in accordance with test methods cited in table I. Nonconformance to 3.3.3 or table I shall constitute failure of this test.

4.5.3.3 Weathering resistance. Weather resistance testing is applicable to all fabric coatings intended to be located on the outside of the tank. Testing shall be in accordance with ASTM D 750, or AATCC 111. Alternate Corex D filters shall be removed during exposure. Nonconformance to 3.3.3 or table I shall constitute failure of this test.

4.5.3.4 Taste and odor. Samples of coating compounds shall be immersed for 72 ± 2 hours in distilled water having no more than 0.2 parts per million of total available chlorine at the start of the test. The samples shall be large enough to expose seven square inches of compound to one quart of chlorinated distilled water. The water shall be tested for taste and odor in accordance with procedures outlined in APHA SME (Standard Methods for the Examination of Water and Wastewater), Parts 207-Odor, and 211B-Taste Rating Scale. Nonconformance to 3.3.3 and table I shall constitute failure of this test.

4.5.3.5 Ozone resistance. Ozone resistance shall be tested as specified in ASTM D 1149, test specimen A. The specimens shall be conditioned for at least 14 days at a temperature of 104 ± 4 °F in air having a partial pressure of ozone of 50 millipascals. Nonconformance to table I requirements shall constitute failure of the test.

4.5.4 Coated fabric. Coated fabric properties shall be tested in accordance with test methods shown in table II. Nonconformance to 3.3.4 and table II shall constitute failure and disqualification of the material.

4.5.4.1 Puncture resistance. Puncture resistance testing shall be in accordance with ASTM D

751, except that the ring clamp mechanism shall have an internal diameter of 3.00 inches. The average of three test specimens shall be reported. Nonconformance to 3.3.4 and table II shall constitute failure of this test.

4.5.4.2 Low temperature crease resistance. Fold two specimens each 8.00 inches square, in half, in each direction so that a folded corner occurs in the center of each specimen. Place each folded specimen under a minimum 4-pound load and condition at less than -25 °F for 46 hours. At the end of the conditioning period, unfold the specimens while still at a temperature of less than -25 °F and examine visually. Any cracking, peeling, or delamination of the coating material shall constitute failure of this test.

4.5.4.3 Blocking. Place two coated fabric specimens of a minimum of 6.00 inches by 1.00 inch on a smooth surface in such a manner that the ends are overlapped by a minimum of 1.00 inch. Place a minimum 4-pound weight directly on the overlapped areas. Place prepared specimens in an oven. After conditioning at a temperature of at least 160 °F, for 4 hours take the specimens from the oven, remove the weight, and condition for 1.00 hour at 73 ± 5 °F and 65 ± 5 percent relative humidity. Retain one end of the specimen in a suitable clamping device, allowing the other end to hang, and suspend a 4-ounce load from the free end of the specimens. Inability of the strips to separate within 5 seconds under the 4-ounce load shall constitute failure of this test.

4.5.4.4 Coating adhesion. Samples of coated fabric shall be bonded face-to-face to provide specimens for determining adhesion between the base fabric and exterior and interior coatings. In forming this bond the specimens shall be subjected to no heat or pressure other than that normally encountered in curing the coated fabric, except for minimal pressure necessary to ensure contact while the bond is setting.

4.5.4.4.1 Test procedure. The adhesion shall be determined in accordance with ASTM D 413, machine method, except that the specimens shall be 2.00 inches wide. The reported values should be expressed in pounds per inch of width. The specimens shall be of sufficient length to conduct adhesion tests for both initial and after water immersion values. The adhesion results obtained on each immersed specimen shall be compared with the initial adhesion of the same specimen to determine percentage of adhesion retained. The reported adhesion and percent retention shall be the average of not less than two specimens. Attempts shall be made to cut the coating back to the cloth and to determine the adhesion value at the coating-to-cloth interface. However, if a specimen separates at a plane other than the bond of the coating to cloth (such as between layers of coating materials or between barrier film and coating), the adhesion value and the plane of failure shall be recorded. Immersed specimens shall be conditioned in distilled water at 73 ± 5 °F, for 30 to 90 minutes before testing. Testing of specimens shall be completed within 3 minutes after removal from the distilled water. Immersion of specimens shall be in accordance with ASTM D 471. Nonconformance to 3.3.4 and table II shall constitute failure of this test. Any obvious bond failure evident after immersion but before stressing, even if the plane of failure is not sandwiched between the layers of fabric, shall constitute failure of this test.

4.5.4.5 Coating thickness. The coating thickness may be measured under a microscope. Record and report the coating thickness of the inner and outer coating from the same bolt of coated fabric. Take five measurements on the inner coating and five measurements on the outer coating. Each measurement shall be at least 6 inches apart, and shall not be taken along the same warp or fill direction. Nonconformance to table II of any of the ten measurements shall constitute

failure of this test.

4.5.5 Seam tests.

4.5.5.1 Breaking strength. The bonding of any two or more pieces of coated fabric (such as lap joints, butt joints, closures, chafing patches, coated fabric flanges of fittings, etc.) shall be considered a seam and shall be subjected to all seam tests specified herein, except chafing patches shall only be tested for peel adhesion. The average breaking strength of five specimens for each type seam, for each test, shall be reported for conformance to table III. Breaking strength specimens shall be 2.00 inches wide (parallel to the seam) and shall extend (perpendicular to the seam) 3.00 inches beyond both edges of the seam. The reported values should be expressed in pounds per inch of width. No part of the test specimens shall be coated or covered prior to the water immersion periods. Specimens shall be stabilized in the immersion water at 73 ± 5 °F, for 30 to 90 minutes before testing. Testing of immersed specimens shall be completed within 3 minutes after removal from the immersion water. The average peel adhesion strength of three specimens for each type seam shall be reported for conformance to table III. Peel adhesion specimens shall be of sufficient length to determine the initial and after water adhesion values on the same specimen. If seam construction involves the use of binding thread, then the peel specimens shall be prepared with threads removed. All breaking strength specimens must break in the coated fabric. Failure of any specimen in a seam area shall constitute failure of this test. Nonconformance to 3.4.1 and table III shall constitute failure of this test.

4.5.5.2 Dead load shear resistance. The test specimens shall be 1.00 ± 0.02 inch wide, (parallel to the seam) and coated fabric shall extend a minimum of 3.00 inches (perpendicular to the seam) on each side of the seam. One index mark shall be scribed on each side of the seam to facilitate observation and measurement of slippage. Each specimen shall be subjected to a constant (dead load) tension force of 100.00 ± 0.50 pounds, at 200 ± 5 °F. After 8 hours, examine each specimen while still under tension for signs of slippage and separation. Three specimens shall be tested for each determination. Slippage, by any specimen, greater than specified in tables III shall constitute failure of this test.

4.5.6 Bonded fittings.

4.5.6.1 Strength of bonded fittings. Specimens shall be prepared by cutting through the flange such that parallel 1.00 inch wide sections are obtained from the straight portion of the fitting. For fittings with no straight portion, specimens shall be prepared by cutting 1.00 inch wedge shaped sections from the curved portion of the flange. The 1.00 inch shall be measured as a chord passing through the midpoint between the inside and outside diameters of the flange for the wedge shaped sections.

4.5.6.1.1 Initial bond strength. The coated fabric flanges shall be fastened together in one jaw of the test machine so that the jaw will be not less than 1.00 inch from the nearest part of the flange fitting. The flange fitting shall be secured in the other jaw of the test machine and shall clamp only the flange fitting and shall not compress the embedded part of the coated fabric flanges. The jaws shall be separated at a rate of 2.00 inches per minute at 73 ± 5 °F and 65 ± 5 percent humidity. The average of three test specimens shall be recorded as initial bond strength in pounds per inch of width. Nonconformance to 3.4.4.1 and table IV shall constitute failure of this test.

4.5.6.1.2 Bond strength after water immersion. Three test specimens shall be immersed for

the appropriate durations as specified in table IV. No part of the specimens shall be covered or coated prior to immersion. Specimens from the vent/drain fittings shall be included. The test specimens shall be cooled in distilled water at 73 ± 5 °F, for at least 60 minutes. The specimens shall be removed from the conditioning water, one at a time and tested as specified in 4.5.6.1.1. Each test shall be completed within 3 minutes after removal from the test fluid. The average of three specimens shall be reported for each immersion period. Nonconformance to 3.4.4.1 and table IV shall constitute failure of this test.

4.5.6.1.3 Dead load shear resistance aluminum to coated fabric bond. Three specimens shall be clamped as specified in 4.5.6.1.1 and subjected to a constant (dead load) tension force of 100.00 ± 0.50 pounds at 200 ± 5 °F. At the end of 8 hours, the specimens shall be examined for slippage and separation while under tension. Nonconformance to 3.4.4.1 and table IV shall constitute failure of this test.

4.5.6.2 Peel adhesion of flange fitting to coated fabric. Special test specimens shall be fabricated consisting of flange strips bonded to lengths of coated fabric. The flange strip shall be 12.00 inches long and shall be of the same material as that used in the fitting flanges. The coated fabric shall be 12.00 inches long (min.) by 2.00 ± 0.05 inches wide, and shall be of the same composition (and of the same state of cure before bonding) as that used in the coated fabric flanges. The coated fabric strip shall be uniformly bonded to the flange strip. The bond shall be formed using identical techniques and bonding agents used to bond tank fittings and shall be cured identically (time, pressure, temperature, etc.) to the process used for bonding tank fittings.

4.5.6.2.1 Test procedures. Specimens used to determine the initial peel strength, shall subsequently be immersed for 14, followed by 28 days in distilled water at 180 °F or higher, and the adhesion determined after each immersion period. Immersed specimens shall be conditioned in distilled water at room temperature for at least one hour prior to testing. All testing shall be in accordance with ASTM D 429, method B. The average of three or more specimens shall be used to compute initial and percentage of retained adhesion. Nonconformance to 3.4.4.1 and table IV shall constitute failure of this test.

4.5.7 Ground cloth. Ground cloth properties for puncture and weathering resistance shall be tested in accordance with test methods shown in table II. Nonconformance to 3.6 and table II shall constitute failure and disqualification of the material.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which is helpful, but is not mandatory.)

6.1 Intended use. The collapsible tanks are intended for use as potable water storage containers when quickly emplaced, temporary facilities are needed. The collapsible tanks are intended to provide a twelve-year shelf life, and three-year service life.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Size of tank required (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.2 and 2.3).
- d. When first article is required (see 3.2).
- e. When filler/discharge, vent, and drain fittings are not required (see 3.4.4.2).
- f. When ground cloth is not required (see 3.6).
- g. When repair items are not required (see 3.7).
- h. When accessories are not required (see 3.8).
- i. When color is other than as specified (see 3.10).
- j. Packaging requirements (see section 5.1).

6.3 First article. When a first article inspection is required, the item(s) should be a preproduction model. The first article should consist of two or more units. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of the first article test results and disposition of the first articles. When two first article tanks are used for testing, one of the tanks may be considered as a deliverable tank, see 4.3.2. Invitation for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product that has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is appropriate for the pending contract.

6.4 Definitions. The following definitions apply for this specification.

6.4.1 Blister. A blister is a void or hole in the base material causing a protrusion on the tank surface when hot. It may not show when cold, and may be covered or open.

6.4.2 Holiday. A holiday is a place not covered by coating compound.

6.4.3 Pinhole. A pinhole is a minute circular void or solvent blow hole.

6.4.4 Cap strip. Water resistance material placed over the cut edge of the coated fabric to prevent wicking into the fabric

6.4.5 Leakage. The passage of fluid from the interior of the tank to the exterior through a fabrication defect, crack or hole of the materials used to construct the tank, or during fabrication of the tank. When leakage occurs a continuous flow of the stored fluid is evident on the outside surface of the tank. Detection by any physical means, to include visual manifestations shall be considered prima facie evidence that leakage has occurred.

6.4.6 Seepage. The act or process of exuding or oozing of fluid from the interior of the tank to the exterior through a fabrication defect, crack or hole of the materials used to construct

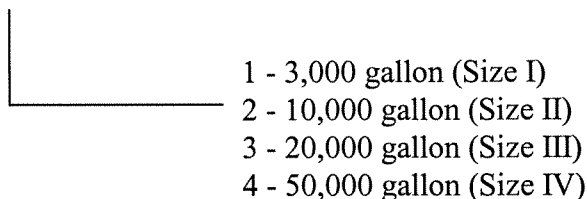
the tank, or during fabrication of the tank. Detection by any physical means, to include visual manifestations shall be considered prima fascia evidence that seepage has occurred.

6.4.7 Wicking. The act or process of fluid gaining access to a woven fabric between the interior and exterior coatings, and by capillary action flowing away from the access point. Fabrication flaws of the coated fabric and tanks can create access points to the woven fabric. Pinholes, cracks, pick-offs and unsealed coated fabric edges are primary access points. Leakage or seepage manifestations can be the direct result of wicking some distance from the internal access point and exiting to the exterior through a similar existing flaw in the outside coating.

6.4.8 Diffusion. The action of migration and dissipation of vapors from the interior of the tank through the coated fabric material to the atmosphere. Visual and physical manifestation of a fluid on the outside of the tank shall not be construed as diffusion.

6.5 Part or identifying number. The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor. This example describes a part numbering system for specification ATPD 2265.

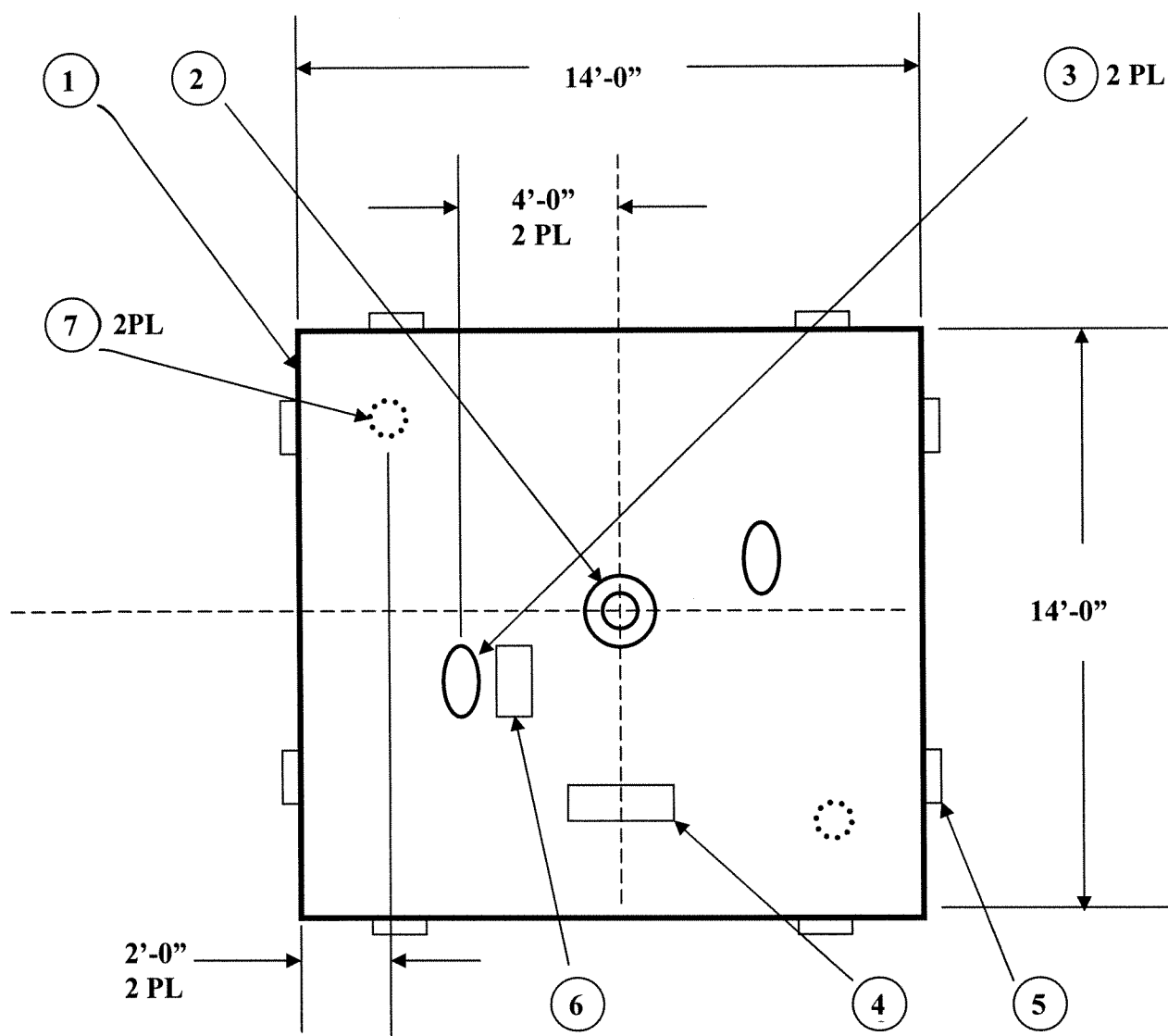
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6.6 Subject term (key word) list.

Bag Storage
Containers, temporary
Potable
Tank, water

Preparing Activity - AT

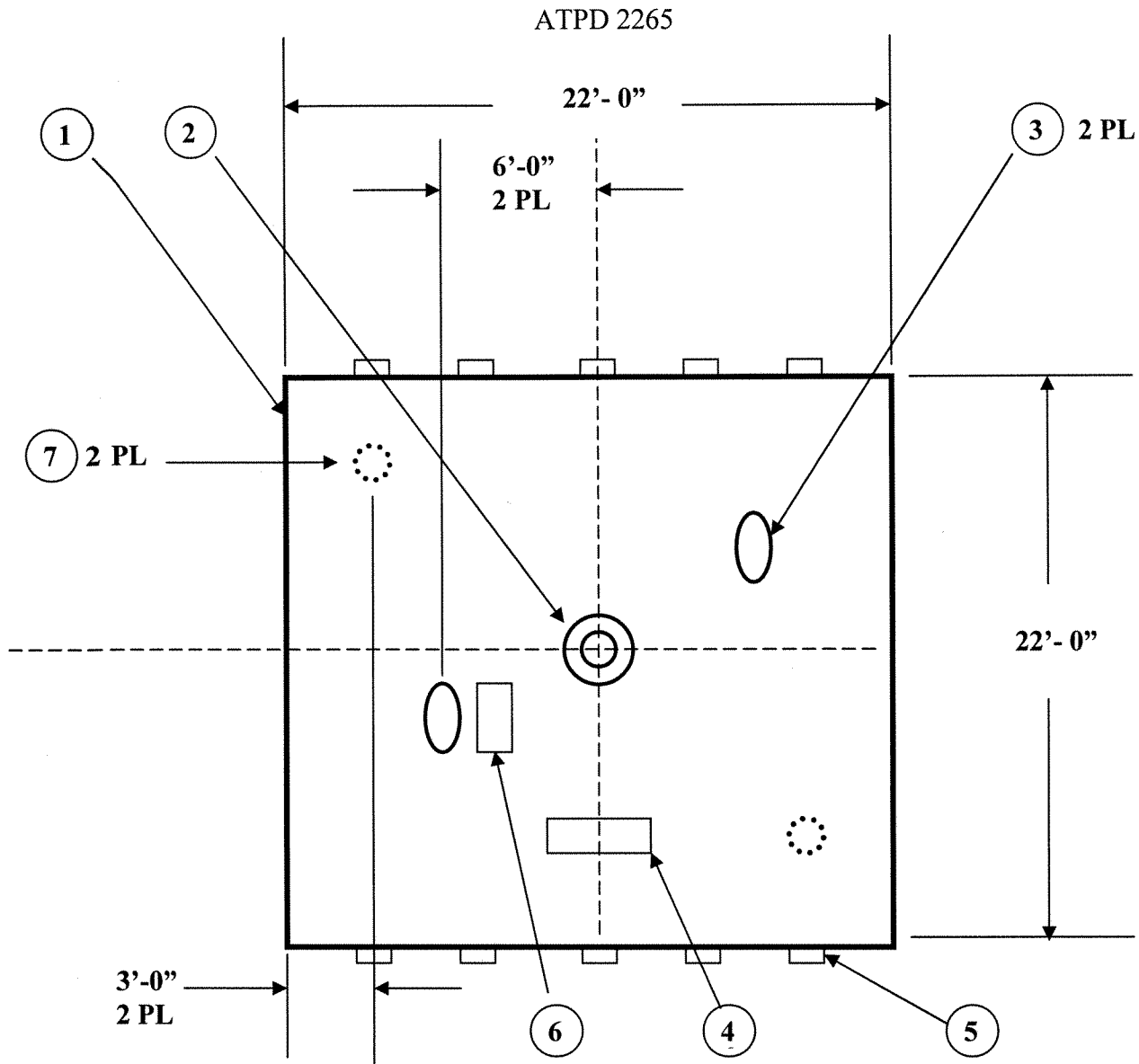


NOTES:

1. TANK IN EMPTY CONFIGURATION (TOP VIEW), SHAPE OF CORNERS OPTIONAL.
2. ALL TOLERANCES ARE ± 1 FOOT UNLESS OTHERWISE NOTED.
3. GENERAL LOCATION OF LABELS IS SHOWN. EXACT ORIENTATION IS AT MANUFACTURE'S DISCRETION.
4. MINIMUM OF TWO HANDLES EACH SIDE.
5. DRAWING NOT TO SCALE.

ITEM	QTY	DESCRIPTION
1	1	TANK, FABRIC, COLLAPSIBLE, 3,000 GALLON
2	1	VENT FITTING ASSEMBLY
3	2	FILLER/DISCHARGE ASSEMBLY
4	1	ID LABEL
5	8 (MIN)	TANK HANDLE (SEE NOTE 4)
6	1	CAUTION LABEL
7	2	DRAIN FITTING

Figure 1. Tank, Fabric, Collapsible, 3,000 Gallon

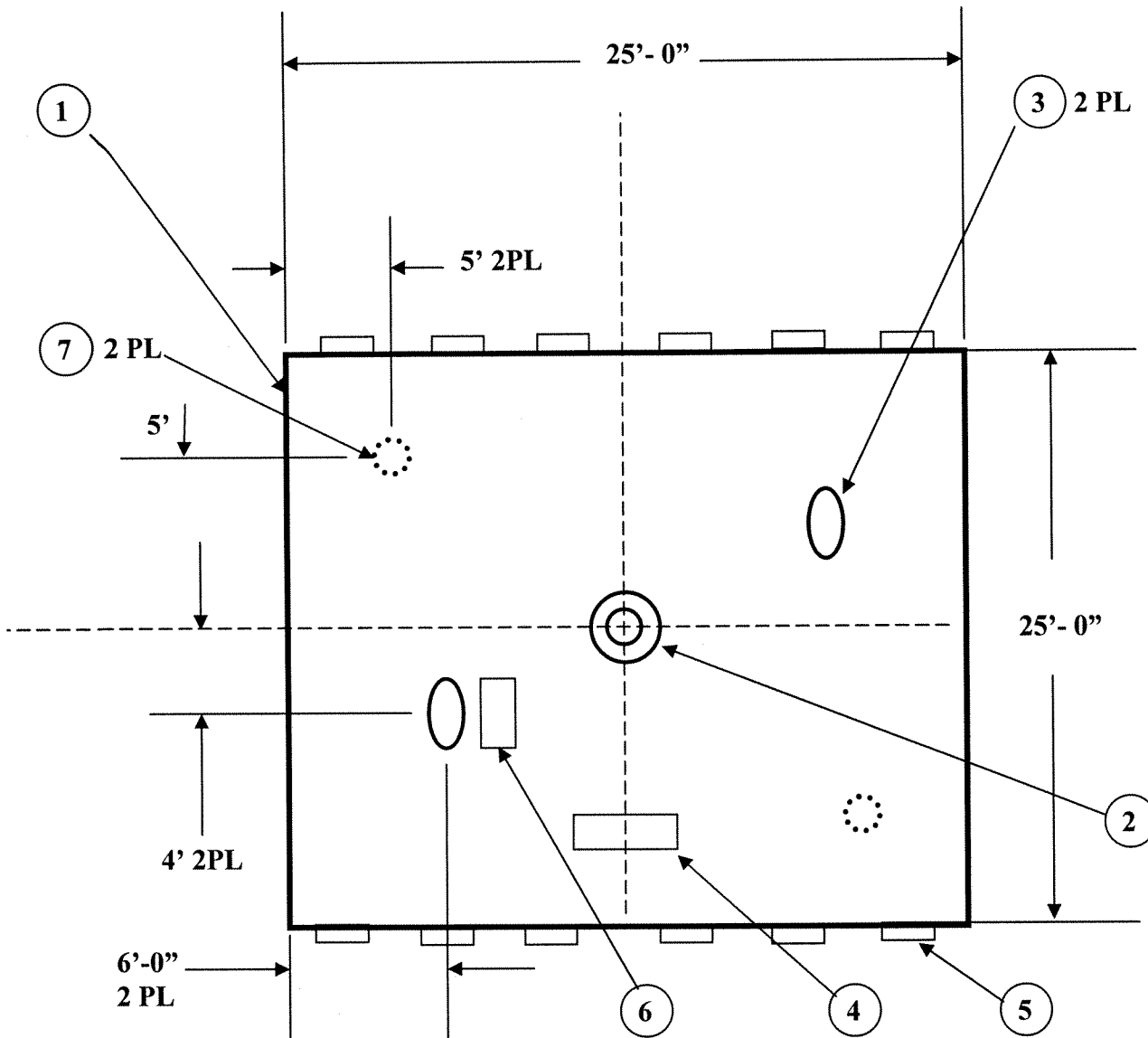


NOTES:

1. TANK IN EMPTY CONFIGURATION (TOP VIEW), SHAPE OF CORNERS OPTIONAL.
2. ALL TOLERANCES ARE ± 1 FOOT UNLESS OTHERWISE NOTED.
3. GENERAL LOCATION OF LABELS IS SHOWN. EXACT ORIENTATION IS AT MANUFACTURE'S DISCRETION.
4. MINIMUM OF FIVE HANDLES EACH SIDE AS SHOWN.
5. DRAWING NOT TO SCALE.

ITEM	QTY	DESCRIPTION
1	1	TANK, FABRIC, COLLAPSIBLE, 10,000 GALLON
2	1	VENT FITTING ASSEMBLY
3	2	FILLER/DISCHARGE ASSEMBLY
4	1	ID LABEL
5	20 (MIN)	TANK HANDLE (SEE NOTE 4)
6	1	CAUTION LABEL
7	2	DRAIN FITTING

Figure 2. Tank, Fabric, Collapsible, 10,000 Gallon

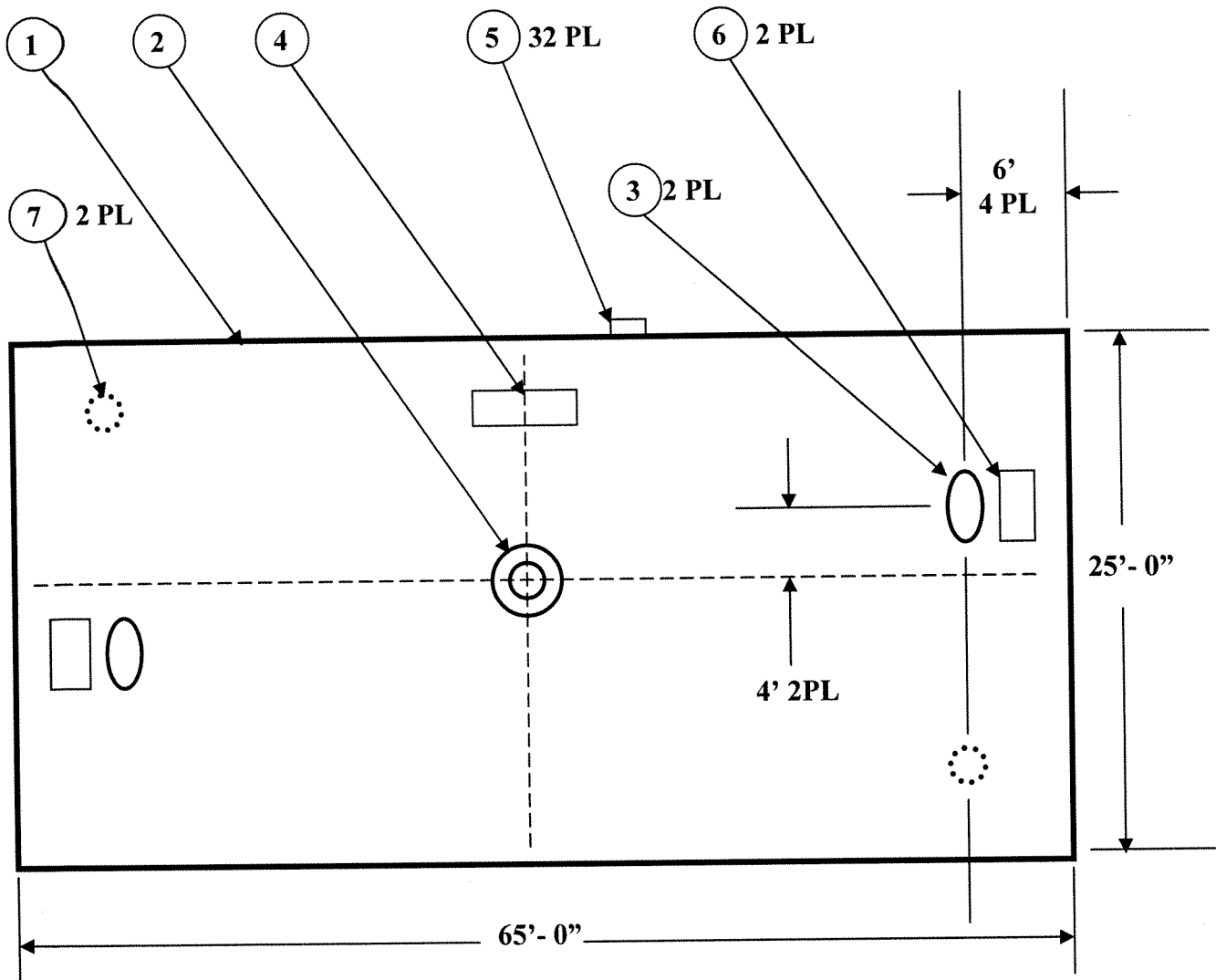


NOTES:

1. TANK IN EMPTY CONFIGURATION (TOP VIEW), SHAPE OF CORNERS OPTIONAL.
2. ALL TOLERANCES ARE ± 1 FOOT UNLESS OTHERWISE NOTED.
3. GENERAL LOCATION OF LABELS IS SHOWN. EXACT ORIENTATION IS AT MANUFACTURE'S DISCRETION.
4. MINIMUM OF SIX HANDLES EACH SIDE.
5. DRAWING NOT TO SCALE.

ITEM	QTY	DESCRIPTION
1	1	TANK, FABRIC, COLLAPSIBLE, 20,000 GALLON
2	1	VENT FITTING ASSEMBLY
3	2	FILLER/DISCHARGE ASSEMBLY
4	1	ID LABEL
5	24 (MIN)	TANK HANDLE (SEE NOTE 4)
6	1	CAUTION LABEL
7	2	DRAIN FITTING

Figure 3. Tank, Fabric, Collapsible, 20,000 Gallon



NOTES:

1. TANK IN EMPTY CONFIGURATION (TOP VIEW), SHAPE OF CORNERS OPTIONAL.
2. ALL TOLERANCES ARE ± 1 FOOT UNLESS OTHERWISE NOTED.
3. GENERAL LOCATION OF LABELS IS SHOWN. EXACT ORIENTATION IS AT MANUFACTURE'S DISCRETION.
4. MINIMUM OF 32 HANDLES EQUALLY SPACED WITH 11 ON EACH 65' SIDE AND 5 ON EACH 25' SIDE.
5. DRAWING NOT TO SCALE.

ITEM	QTY	DESCRIPTION
1	1	TANK, FABRIC, COLLAPSIBLE, 50,000 GALLON
2	1	VENT FITTING ASSEMBLY
3	2	FILLER/DISCHARGE ASSEMBLY
4	1	ID LABEL
5	32 (MIN)	TANK HANDLE (SEE NOTE 4)
6	2	CAUTION LABEL
7	1	DRAIN FITTING

Figure 4. Tank, Fabric, Collapsible, 50,000 Gallon.